



*Tarleton State University*  
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# Dixon Creek

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## Recreational Use Attainability Analysis Summary of Findings (First Survey Event)

Texas Institute for Applied Environmental Research  
Stephenville, Texas

July 23, 2013





# Why are we here?

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- Dixon Creek listed as impaired
  - 2000 Texas Water Quality 303(d) List
  - Impaired for primary recreation
  - Based on elevated levels of bacteria & dissolved oxygen





# Why are we here?

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- One potential way to get Dixon Creek off the impaired list
  - Assess if the recreational standard is appropriate via a recreational use attainability analysis (RUAA)
  - Primary recreation is assumed





# Purpose of RUAA

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- Collect information that will:
  1. Confirm if primary contact recreation is or is not occurring
  2. Provide evidence to support a change in recreational use category of Dixon Creek
- Recreational Use Categories
  1. Primary Contact Recreation
  2. Secondary Contact Recreation 1
  3. Secondary Contact Recreation 2
  4. Noncontact Recreation





# Components of a RUAA

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- **Field Surveys** – to document current stream conditions and uses
- **Historical Information Review** – to document past recreational uses
- **Interviews** – to obtain feedback on current and past recreational uses of Dixon Creek





# Field Surveys

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- What they entail:
  - Goal: 3 sites for every 5 miles
  - At each site:
    - 300 meter reach traversed
  - Document
    - Stream characteristics that may promote or hinder recreational use
    - Observations of direct use or signs of recreational use
    - Interviews with individuals





# Field Data Sheet Information

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- Streamflow and stream type
- Riparian zone, ease of bank access, dominant substrate
- Stream channel and pool measurements
- Types of recreation observed or signs of recreation
- Factors that may promote or impede recreation





# Field Surveys

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- Complete field data sheet
- Photograph stream conditions
  - Transects - upstream, downstream, left bank, and right bank
  - Evidence of human use
- Interview stakeholders present at time of survey







# Sampling Conditions for Surveys

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1. Air temperature over 70° F
2. Sustained or typical dry, warm-weather streamflow
3. Performed when use is likely (Spring Break, Weekends, Holidays & Summer)





Any Questions on RUAA  
Background?





# Survey Dates for Dixon Creek

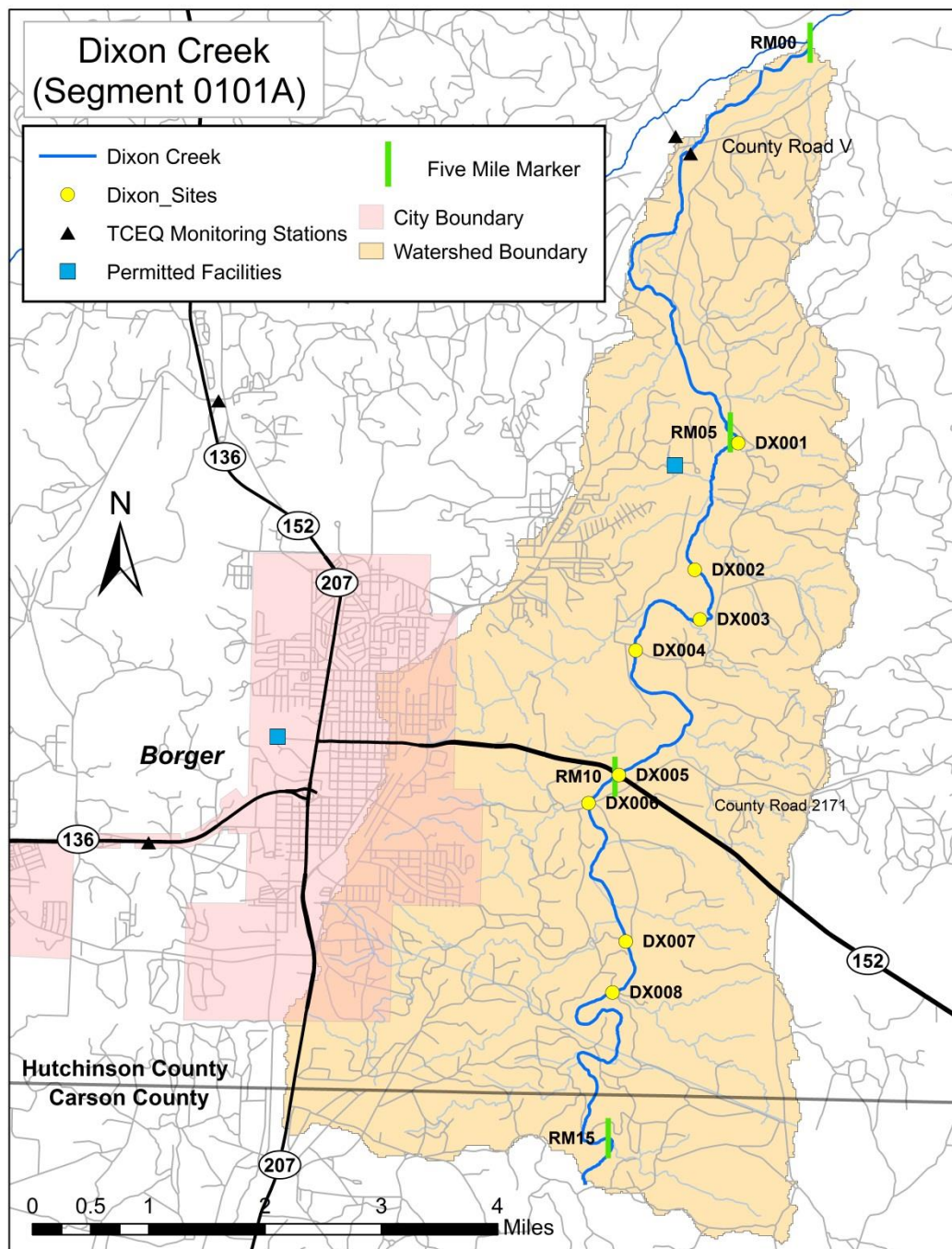
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- 2013 – First RUAA Survey
  - Data Collected May 25<sup>th</sup> – 28<sup>th</sup>
    - (Saturday - Tuesday)
- 2013 – Second RUAA Survey
  - Scheduled for July 29<sup>th</sup> – August 3<sup>rd</sup>
    - (Monday - Saturday)



# Dixon Creek (Segment 0101A)

- Dixon Creek
- Dixon\_Sites
- TCEQ Monitoring Stations
- Permitted Facilities
- Five Mile Marker
- City Boundary
- Watershed Boundary



<b>TCEQ ID</b>	<b>Site ID</b>	<b>Site Description</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Distance from Previous Site (mi)<sup>1</sup></b>	<b>Distance from Confluence (mi)<sup>1</sup></b>	<b>Distance from Upper Reach (mi)<sup>1</sup></b>	<b>Access</b>
	DX001	Dixon Creek 4.84 river miles north of Hwy 152	35.706302	-101.334300	-	5.12	9.99	Private
	DX002	Dixon Creek 3.46 river miles north of Hwy 152	35.690383	-101.340472	1.38	6.5	8.61	Private
	DX003	Dixon Creek 2.86 river miles north of Hwy 152	35.684227	-101.339494	0.60	7.10	8.01	Private
	DX004	Dixon Creek 1.95 river miles north of Hwy 152	35.680161	-101.34921	0.91	8.01	7.10	Public
17045	DX005	Dixon Creek at SH 152, west of RR 2171, East of Borger	35.664585	-101.35132	1.95	9.96	5.15	Public
	DX006	Dixon Creek 0.36 river miles south of Hwy 152	35.661016	-101.355854	0.36	10.32	4.79	Private
	DX007	Dixon Creek 1.81 river miles north of CR 2171	35.643897	-101.349651	1.39	11.71	3.40	Private
	DX008	Dixon Creek 1.23 river miles north of CR 2171	35.637501	-101.351495	0.58	12.29	2.82	Private

<sup>1</sup> Distances were digitally estimated using the measuring tool in ArcGIS 9.3 with the 2010 NAIP 1m DOQQs and the NHD stream layer as reference guides.



# Findings First RUAA Survey

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- Conducted May 25<sup>th</sup>-28<sup>th</sup>
  - (Saturday -Tuesday)
- Summary
  - Limited water for recreation
  - No direct recreation observed
  - Limited public access, mostly private property





# Dixon Creek Photographs

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**Up Stream at DX003**



**Down Stream at DX003**



# Dixon Creek Photographs

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**Cattle tracks at DX004**



**Up Stream Pool at DX004**





# Dixon Creek Photographs

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**Obstruction at DX006**



**Child's ball at DX005**



# Dixon Creek Photographs

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**Left bank at DX007**



**Oil pipe line at DX007**





# Dixon Creek Photographs

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**Dog tracks at DX008**



**Oil pipe line at DX008**





# Next Steps

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- Second Field Survey
  - Scheduled for July 29<sup>th</sup> – August 3rd
    - (Monday - Saturday)
- Historical Review – on-going
  - Request information on past recreational use of Dixon Creek





# Next Steps

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- Interviews – on-going
  - We need feedback on current and past recreational uses of Dixon Creek

Interview Forms may be requested from  
TIAER

[lrbrown@tiaer.tarleton.edu](mailto:lrbrown@tiaer.tarleton.edu)

(254) 968-0513





# Contact Information

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# Questions?

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## Thank You

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